



Republic of the Philippines
Department of Education
National Capital Region
Schools Division Office – Muntinlupa City

**SPECIAL PROGRAM FOR TECHNICAL VOCATIONAL EDUCATION [SPTVE]
SHIELDED METAL ARC WELDING 9 / Quarter 3: Week 3 Module**

I. Topic: Weld Butt Joint [Close] in Horizontal Position

II. Objectives:

1. Perform stringer beads in accordance with welding standard.
2. Check uniformity of bead ripples in accordance with welding standards.
3. Perform inspection on the finished weldment based on acceptable standard.

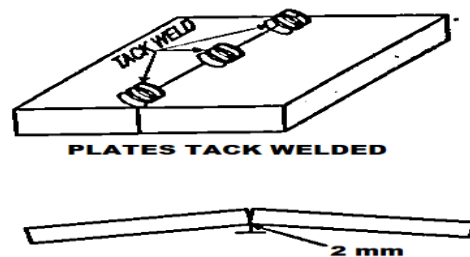
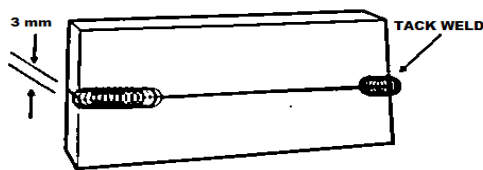
III. Brief Introduction of the Lesson:

This module contains information and suggested learning activities for **Weld Butt Joint (Close) in Horizontal Position**. The scope of this module permits it to be used in many different learning situations. The language used recognizes the diverse vocabulary level of students.

SQUARE EDGE (CLOSE) BUTT WELD IN HORIZONTAL POSITION

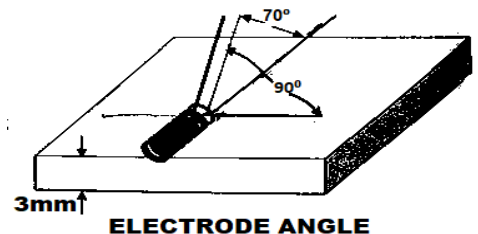
Target: To weld a square edge close butt-weld in horizontal position. The bead should be straight in terms of height and width, with smooth ripples and the welded plates aligned.

Plan Illustration:



Welding procedure:

1. Tack welds the plates 10 mm from each end and at the center with no gap between the edges of the plate.
2. Preset the plate to allow for angular distortion.
3. Clamp the plate in the welding positioner with the edge of the plate parallel to the ground.
Note: Position the joint line just below eye level to have a clear view of the arc when welding commences.
4. Weld first the side, which is not tacked with the electrode at 75° - 85° travel angle and 95° work angle.
Note: Manipulate the electrode using a circular weaving motion. Maintain the width of bead at 8 mm and arc length at 2-3 mm.
5. Chip the slag and wire brush the bead.
Note: Wear safety glasses or chipping shield in your welding helmet.
6. Inspect the run for uniform width.
7. Turn the plate over and grind/remove the tacking.
Note: Wire brush the plate to remove the scale.
8. Weld the reverse side following the same procedure.



Marking table 2.1:

The passing mark is 20 points.





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Criteria	Marks (Subtracted)
1. Straightness	
2. Width of bead	
3. Height of bead	
4. Ripple	
5. Plate alignment	
Total Marks Subtracted	

Final points= 40 – total marks subtracted

Final points = _____

Marking Schedule:

- 1. Straightness**
Subtract 2 marks for each degree of depletion from the line of weld.
- 2. Width of Bead**
Subtract 4 marks from each 10 mm length of bead, which is 1 mm less, or more than required 8 mm bead width.
- 3. Height of Bead**
Subtract 4 marks for each 10 mm length of bead exceeds the height of 3 mm.
- 4. Ripple**
Subtract 4 marks for uneven and coarse ripple.
- 5. Plate alignment**
Subtract 3 marks for each 2 degrees angular misalignment.
Subtract 3 marks for each millimeter of offset between plates.

IV. Activities:

Activity 1: DIRECTION: Draw your plan illustration for square edge [close] butt weld in horizontal position. Use a separate sheet of paper for your performance.

Activity 2: DIRECTIONS: Enumerate the correct and proper welding procedure in performing Square edge [close] butt weld in horizontal position. Use separate sheet of paper for your answer.





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Activity 3:

DIRECTIONS: Illustrate the correct electrode angle position when performing square edge [close] butt weld in horizontal position. Use a separate sheet of paper for your performance.

V. Assessment:

DIRECTIONS: Complete the procedure. Fill in the blanks with the correct answer. Use separate sheet of paper.

SQUARE EDGE (CLOSE) BUTT WELD IN HORIZONTAL POSITION

Tack welds the plates 10 mm from each end and at the center with no gap between the edges of the plate. Preset the plate to allow for angular distortion. (1)_____the plate in the welding positioner with the edge of the plate parallel to the ground. Position the joint line just (2)_____to have a clear view of the arc when welding commences. Weld first the side, which is not tacked with the electrode at (3)_____travel angle and (4)_____work angle. Manipulate the electrode using a (5)_____weaving motion. Maintain the width of bead at 8 mm and arc length at 2-3 mm. Chip the slag and wire brush the bead. Inspect the run for uniform width. Turn the plate over and grind/remove the tacking. Weld the reverse side following the same procedure.

VI. Reflection:

What is the importance of learning the proper procedure and illustrating plan prior to welding square edge [close] butt weld in horizontal position?

Can you perform proper welding by simply following the procedures when face to face hands on will go on?

References:



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Public Technical Schools, COMPETENCY-BASED LEARNING MATERIAL, Third Year, Shielded Metal Arc Welding

[Department of Education 2008]

Welding Technology, 2nd Edition, Gower A. Kennedy

Welding Guide Fabrication Shop, Ismael V. Palabrica

Metal Works 1, SEDP Series, Industrial Technology

Basic Manual Metal Arc Welding, National Training Center for Technical Education and Staff Development

Welding Principles and Applications, Larry Jeffus and Harold V. Johnson

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